

Claims

1. A process for producing a fibrous laminate (10) comprising several fibrous layers (1) with reinforcing fibers (2) extending in each instance in a preferred direction and/or comprising several multiaxial laminates consisting of reinforcing fibers (2) of differing contour (3), characterized in that the fibrous layers (1) and/or multiaxial laminates are fixed, one below the other, superimposed along at least one region (6), and are subsequently contoured.
2. Process according to Claim 1, characterized in that a line is selected by way of region (6).
3. Process according to Claim 1 or 2, characterized in that glass fibers and/or carbon fibers and/or aramide fibers are used by way of reinforcing fibers (2).
4. Process according to one or more of the preceding claims, characterized in that the fibrous layers (1) and/or multiaxial laminates are fixed by fiber technology.
5. Process according to Claim 4, characterized in that the fixing is effected by means of sewing or tufting.
6. Process according to one or more of the preceding Claims 1 to 3, characterized in that the fibrous layers (1) and/or multiaxial laminates are fixed mechanically.
7. Process according to Claim 6, characterized in that the fixing is effected by clipping or adhesive bonding.
8. Process according to one or more of the preceding claims, characterized in that all the fibrous layers (1) except that/those to be contoured or the multiaxial laminate(s) to be contoured are protected during the contouring.
9. Process according to Claim 8, characterized in that the fibrous layer(s) (1) to be protected or the multiaxial laminate(s) to be protected are shielded mechanically, in particular by means of a metal sheet, or are folded away.

10. Process according to one or more of the preceding claims, characterized in that the contour (3) of the fibrous layers (1) and/or multiaxial laminates is produced by cutting, punching or laser action.
11. A process for producing a construction element (20) for turbo-machines, in particular for gas turbines, in particular for turbine blades (30), wherein
- several fibrous layers (1), with reinforcing fibers (2) extending in each instance in a preferred direction, and/or several multiaxial laminates consisting of reinforcing fibers (2) are superimposed,
 - the fibrous layers (1) and/or multiaxial laminates are fixed, one below the other, along at least one region (4),
 - individual fibrous layers (1) and/or multiaxial laminates are contoured in such a manner that the shape of the fibrous laminate corresponds to the shape of the construction element,
 - the fibrous laminate (10) is introduced into a mould having a cavity that is complementary to the contour of the construction element,
 - the cavity is filled by impregnating the fibrous laminate with a flowable matrix, and
 - the matrix is solidified.
12. Process according to Claim 11, characterized in that the region of fixing is laid down outside the construction-element mould.
13. Process according to Claim 11 or 12, characterized in that the matrix is solidified by chemical or physical reaction.
14. Process according to one or more of the preceding Claims 11 to 13, characterized in that a curable synthetic resin is used by way of matrix.
15. Process according to Claim 14, characterized in that epoxy resins, bismaleimides or polyimides are used by way of synthetic resin.
16. A fibrous laminate (10) comprising several fibrous layers (1) with reinforcing fibers (2)

extending in each instance in a preferential direction and/or comprising several multiaxial laminates consisting of reinforcing fibers of differing contour (3), characterized in that the fibrous layers (1) and/or multiaxial laminates are fixed, superimposed along a line (4).

17. Fibrous laminate (10) according to Claim 16, characterized in that the reinforcing fibers (2) are glass fibers and/or carbon fibers and/or aramide fibers.

18. Fibrous laminate (10) according to Claim 16 or 17, characterized in that the fibrous layers (1) and/or multiaxial laminates are fixed by sewing, tufting, clipping or adhesive bonding.